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10/010,072	12/11/2001	Florian Max Kehlstadt	09623C-035500US	1763

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EXAMINER	
PRIZIO JR, PETER	

ART UNIT	PAPER NUMBER
2674	8

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/010,072	Applicant(s) KEHLSTADT ET AL.	
	Examiner Peter Prizio	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 19-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23* is/are allowed.

6)☒ Claim(s) *1-17,19-22 and 24-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed on 12 March 2004.

Claim Status

2. Claims 1 – 17 and 19 - 26 are pending.

3. Claims 1 – 17, 19 – 22, and 24 – 26 are rejected.

4. Claim 23 is allowed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 21, 22 and 24** are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,530,455 to Gillick et al. (col. 3). Gillick et al. suggested (col. 2, lines 39-48 and fig. 1) a housing (26) with corresponding circuitry to transmit the input signals, and a scrolling element. The scrolling element (fig. 5) is a roller (24) with a microswitch (37) mounted below said roller and activated by depressing said roller.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. **Claims 1, 2, and 4 – 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,198,473 to Armstrong in view of US Patent 5,691,747 to Amano.

9. Though Armstrong (col. 11 & 12) covers all limitations of claim 1 including a housing (104), electronic circuitry (111), an input element (scroll-up button 107 and scroll-down button 108), a pressure-sensing resistor (sensor 10), a solid elastomeric material (dome-cap for 107, 108) and Armstrong (col. 16 & 18, Fig. 7 & 8) relates the applied pressure to the resistivity of the sensor, Armstrong is silent to the limitation of an elastomeric material that exhibits no visible deformation or movement. Armstrong does provide the suggestion that it is possible to use a pressure sensitive button with a rigid elastomeric cover (for example: column 3, line 66 – column 4, line 21).

10. To elaborate the suggestion that it is possible to have a rigid elastomeric cap, Amano (Fig, 8) teaches an electronic pointing device (10) that exhibits no visible deformation or movement (for example: column 12, lines 30 – 46) with the application of pressure and can be used for cursor control (for example: column 7) or for clicking operations (for example: column 11, lines 26 – 36).

11. Therefore it would have been obvious to one of ordinary skill in the art to modify the pressure sensitive buttons as taught by Armstrong with the pressure sensitive solid elastomeric domes as taught by Amano for the benefit of higher accuracy of location of

the pressure (for example: column 12, lines 30 – 36) and for greater durability (for example: column 12, lines 47 – 50).

12. Regarding claims 2 and 4, Armstrong further suggested (col. 5, lines 61-64) the invention is a mouse with buttons for providing increased user control over window scrolling. The input element (107 & 108) is of an elongated shape.

13. Further teachings of Armstrong cover the limitations set forth in claim 5 that a low pressure on a scroll button resulted in a slow rate of scrolling in the desired direction, while high pressure resulted in a high rate of scrolling (col. 6, lines 21-29). Therefore the amount of force exerted on the button is controls the rate of scrolling.

14. Regarding claim 6, Armstrong further suggested (Fig. 7) the pressure-sensing resistor contains an air gap.

15. **Claims 7 – 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view of Amano as applied to claim 6 above, and further in view of US Patent 5,847,639 to Yaniger. Armstrong in view of Amano teaches a pressure-sensitive switch with no visual deformation or movement as applied to claims 1 and 6 above, however do not teach the specific materials or coatings. However, Yaniger teaches a layered pressure transducer that comprises a semiconductive film (10) that comprises a flexible polymer film coated with a relative smooth resistive coating. Where the film can be a indium tin oxide coated polymer, MYLAR film coated with carbon loaded polymer or indium oxide or indium tin oxide, or the flexible polymer can be polyester and can have a smooth resistive layer deposited thereon such as a carbon-filled resin or indium tin oxide (for example, column 3, lines 35+). It would have been obvious to one skilled in

the art of elastomeric dome-cap sensors as taught by Armstrong in view of Amano (Fig. 7 & 8) to be constructed using a metal-coated plastic, polyester or polyethylene terephtalate for increased strength and sensitivity as suggested by Yaniger for the benefit of lowered manufacturing costs and increased accuracy (for example, column 2, lines 38+).

16. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view of Amano to claim 1 above and further in view of US Patent 5,883,619 to Ho et al.

17. As stated in column 2, lines 5-14, Ho et al suggested a view control system comprising a button for generating a zooming signal on a mouse. It would have been obvious to one skilled in the art to modify Armstrong in view of Amano with the teachings of Ho et al to control zooming from buttons on a mouse for the benefit of controlled zooming speed without many extra finger movements.

18. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view of Amano, as applied to claims 1 and 2 above, in view of "Hear Yourself Type", PC Magazine by Rubenking. KeyTick generates an audible sound when the scroll wheel of a mouse is used. It would have been obvious to one skilled in the art to modify Armstrong with the teachings of "Hear Yourself Type" for the benefit of user feedback to alert the user to an action performed using the mouse.

19. **Claims 11-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view of Gillick et al.

20. Regarding claims 11 and 17, Armstrong suggested, in column 7, lines 1-7, that one button could have 2 roles determined by the length of time the button is pressed, i.e. if a button is tapped, action 1 will be performed, but if that same button is held for longer than a predetermined amount of time, action 2 will be performed, while Gillick et al. suggested multiple scrolling methods and (col. 8, line 53-57) suggested "PowerScroll" which is a continuous, user-interrupted scrolling and single motion scrolling (col. 3, lines 50-51). It would have been obvious to one skilled in the art to combine the time determined function buttons of Armstrong with the scroll methods and roller of Gillick et al. in order to achieve multiple states of scrolling with one button, i.e. a short tap of a button would result in a single scroll motion while a longer touch of the button would result in continuous scrolling.

21. Regarding claim 12 an Armstrong in view of Gillick et al. as applied to claim 11 above, Gillick et al. further suggested a driver to be "placed in parallel with the mouse controlled subfunctions, which are not modified. The driver generates messages to implement the same subfunctions normally called in other ways," (col. 2, lines 50-53).

22. Regarding claims 13 and 14 and Armstrong in view of Gillick et al. as applied to claim 11 above, Armstrong further suggested, (col. 6, lines 6-9) "the circuitry is structured to read an immediate, instant or current state or value of the analog sensors and to communicate representative scroll control signals to the associated computer."

23. Regarding claim 15 and Armstrong in view of Gillick et al. as applied to claim 11 above, Armstrong suggested (Fig. 1) the use of pressure sensitive buttons (scroll buttons 107 & 108), determined to be analogous to pressure-sensing resistors.

24. Regarding claim 16 and Armstrong in view of Gillick et al. as applied to claim 11 above; Gillick et al. further suggested (col. 3, lines 50-51) that a single movement of the scroll wheel could make precise adjustments.

25. **Claims 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view Amano and in view of US Patent 5,302,936 to Yaniger. Armstrong (fig. 7) suggested the use of elastomeric dome-cap pressure sensors. The construction is such that it has a raised solid overlay (12), while Yaniger (col. 2 & 3) suggested (fig. 2) a base ply (12), a resistance ply (14) on the base ply, which includes a conductive particulate (16) dispersed within a resistive resin (18). Opposite the surface of the resistive ply (22) there are two contacts (26 & 28). Pressure applied to the upper surface (31) causes contact between the contacts and the resistance ply. As the pressure increases the resistance to the flow of electricity decreases (col. 3, lines 35-39).

26. The combination of Armstrong in view of Amano for an elastomeric pressure sensitive button that is not visible deformed or moved during operation has been discussed in the rejection of claim 1 and is herein combined for the same reasons.

27. It would have been obvious to one skilled in the art to combine the input device as described in Armstrong with the pressure-sensing resistor (PSR) as taught by

Yaniger in order to have a stable, predictable FSR for a pressure controlled input device that is easily located and operated by the user. It would have been further obvious to be able to activate the FSR with a force of less than 50 grams to reduce the strain on the user while maintaining the ability of multiple states as suggested by Armstrong (col. 6, lines 21-29).

28. **Claims 25 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillick et al. as applied to claim 21 above and in view of Armstrong. Armstrong suggested the use of pressure sensitive buttons utilizing pressure-sensing resistors (sensor 10) for variable speed scrolling (buttons 107 & 108), while Gillick et al. suggested a roller that can be operated as a button to enter the above stated "PowerScroll" mode. It would have been obvious to one skilled in the art to combine a pressure sensitive button using a force variable resistor as taught by Armstrong with a roller/button combination as suggested by Gillick et al. in order to provide multiple functions to one roller, and allow the user to vary the speed of the continuous scrolling depending on the pressure applied to the roller.

Allowable Subject Matter

29. Claim 23 allowed in view of the amendment where claim 23 was rewritten in independent form including all of the limitations of the base and intervening claims.

Response to Arguments

30. The objections to the specification and the drawings are now withdrawn.

31. Applicant's arguments with respect to claim 1 - 3, 4 – 9, 19, and 20 have been considered but are moot in view of the new ground(s) of rejection.

32. Applicant's arguments with respect to claims 11 – 17 have been considered and are not persuasive. The Applicant begins by stating that neither Armstrong nor Gillick, nor the combination of the two suggest a duration of time to distinguish between scrolling and continuous scrolling, however, Armstrong does provide a distinguishing factor based on time to provide two different functions from the same button (for example, column 6, lines 52+). Though both functions are not for scrolling, it is still a time differential that distinguishes between the two (for example, column 7, lines 1 – 7) where Armstrong teaches the second role is used by "continuously holding down the button beyond a brief given amount of time". Now in combination with Gillick, which provides two different scrolling methods, one for individual scroll and another for continuous scroll (PowerScroll). Therefore the two scrolling methods can be induced using the multi-purpose buttons as taught by Armstrong depending on the duration of time the user presses the buttons.

33. Applicant's arguments with respect to claims 21 – 26 where Applicant states the claims 21 – 24 were not rejected on any art, however the claims were rejected under 35 U.S.C 102(b) as being anticipated by Gillick and therefore the rejection will be repeated in this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Prizio whose telephone number is (703) 305-5712. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on (703) 305-4709. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter Prizio

Examiner
Art Unit 2674
May 21, 2004

PP

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
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5/27/04